

Darwin Plus: Overseas Territories Environment and Climate Fund Annual Report

To be completed with reference to the “Project Reporting Information Note”
(<https://darwinplus.org.uk/resources/information-notes>)

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes)

Submission Deadline: 30th April 2023

Submit to: BCF-Reports@niras.com including your project ref in the subject line

Darwin Plus Project Information

Project reference	DPLUS162
Project title	Characterising the biodiversity of selected offshore seamounts to improve management
Territory(ies)	Cayman Islands
Lead Partner	Central Caribbean Marine Institute
Project partner(s)	Cayman Islands Department of Environment, Guy Harvey Ocean Foundation, Smithsonian Tropical Research Institute
Darwin Plus grant value	£490,384
Start/end dates of project	May 1, 2022 / March 31, 2025
Reporting period (e.g. Apr 2022-Mar 2023) and number (e.g. Annual Report 1, 2)	May 2022 – March 2023 Annual Report 1
Project Leader name	Dr. Gretchen Goodbody-Gringley
Project website/blog/social media	
Report author(s) and date	Dr. Gretchen Goodbody-Gringley, May 1, 2023

1. Project summary

Coral reefs have global ecological, structural, social, and economic importance that is disproportionately large relative to their areal extent. They are a fundamental component of marine ecosystems and a major locus of global biodiversity, providing an ecological reserve of genetic complexity. Coral reef systems are increasingly threatened by local and global impacts, including overfishing and climate change. Nearshore ecosystems are particularly vulnerable due to their proximity to humans and longer residence times of water, resulting in higher frequency of thermal anomalies. Offshore seamounts, however, are increasingly targeted for commercial and recreational fishing and thus may suffer from greater impacts of overfishing. In the archipelago of the Galapagos Islands, for example, international commercial fishing fleets line the border of the marine protected area to take advantage of these highly productive seamounts. Yet, seamounts often serve as critical stepping-stones, connecting oceanic islands and shaping community composition and distribution across broad geographic scales. In the Cayman Islands, two seamounts (12-Mile Bank and Pickle Bank) rise above the 30m depth contour and likely serve as important stepping-stone communities. Both seamounts are frequently visited by recreational and commercial fisherman as prime locations for catching large pelagic species, yet characterization of the biological communities and physical environments remains limited. This study will use advanced technologies and the proven strength of project partners to create

precise, high-resolution characterization of these understudied ecosystems as well as generate outreach and educational content that will be distributed globally, highlighting the importance of protecting these valuable resources through sustainable management. Coupled with data generated fish communities in deeper regions of the main platform around Grand Cayman and Little Cayman, this project will increase understanding of how these unique ecosystems function and maintain biodiversity, and the importance of connectivity among and between seamounts and nearshore communities. As such, this project will help guide future management of offshore seamounts and assist with marine spatial planning for offshore zones and the Blue Belt.

2. Project stakeholders/partners

The main stakeholder for this project is the Cayman Islands Department of Environment (DOE). This project was developed in direct collaboration with the DOE following several consultations to identify key outcomes that would benefit local marine spatial planning, while capitalizing on the key strengths of all partners. For this project, the DOE remains committed to making their vessel, SeaKeeper, available for day trips to 12-Mile Bank as well as occasional trips to Pickle Bank. They will also assist with finding housing available on Grand Cayman for visiting project participants. Due to weather and conflicting schedules, the vessel was not available for the first expedition to 12-Mile, however, the DOE were able to assist with field work by constructing a descent line for our divers. The DOE has also made introductions with collaborators on DPLUS140 to ensure data are shared among groups. At project end, the DOE will be directly involved with data interpretation, outreach initiatives, and development of the CIBAP chapter as well as any proposed legislation.

The second main stakeholder is the local commercial and recreational fishing community. To include this stakeholder group, we are collaborating directly with the Guy Harvey Ocean Foundation (GHOF). The GHOF will support this project in years 2 and 3 by disseminating our project intent, activities, and results directly to the fishing community. An initial press release was launched in the local newspaper to inform the public of the upcoming work. In project year 2, the postdoctoral researcher on the project will interact directly with the fishing community through a series of workshops.

Another main stakeholder group is the local public. This group has already been engaged with the project through our initial press release and postings on social media. Likewise, the scientific community has been included with the project through presentation of project results at two international scientific symposia in Year 1, the Mesophotic Coral Ecosystem Gordon Research Conference and the Benthic Ecology Meeting.

3. Project progress

3.1 Progress in carrying out project Activities

In project year 1 we have focused on activities related to obtaining the raw data. This includes finding a suitable liveaboard vessel for the Pickle Bank surveys and securing an available date, recruiting a qualified postdoctoral researcher, and purchasing all necessary purchases and supplies to support activities 1.1 – 1.6. Specifically, we began all logistical aspects of the project, such as establishing an MOU with project partner M. Leray from STRI and making travel arrangements for his participation in initial field work (Activities 1.4 and 1.5). We sourced and secured necessary equipment for conducting surveys associated with Output 1, including cameras and lights (Activities 1.2 and 2.1), and environmental loggers (Activity 1.6). We also recruited a postdoctoral researcher to participate in the project who will begin in Year 2-Q1. In addition, we secured an appropriate liveaboard charter vessel to facilitate surveys at the most distant seamount in Y2-Q2 (Activities 1.1 & 1.2). Two research technicians completed their technical dive training with the CCMI Dive Safety Officer to participate in surveys at the seamounts Activities 1.1 & 1.2).

The first set of surveys at 12-Mile Bank were arranged from October 1 – 14, 2022 (Activities 1.1 & 1.2). The team was assembled in Grand Cayman, including collaborator M. Leray from STRI, however the weather did not permit transit to the seamount. As such, we decided to focus our

efforts for the week on nearshore mesophotic reefs in Grand Cayman. This allowed the opportunity to test our sampling design while also obtaining comparative data that will ultimately strengthen the project results.

The photomosaics were stitched together in the laboratory by a research technician and are currently being analysed by a visiting intern (1.3). Fish data were analysed and presented as a scientific poster at 2 symposia in 2023 (1.3 & 1.7). The newly recruited postdoctoral research is currently working to consolidate these data for a publication (1.7). Water and sediment samples were collected from the nearshore sites (1.4) and are currently being analysed by collaborator M. Leray at his laboratory in Panama (1.5).

Still imagery was captured during the nearshore surveys and the project is contributing to an episode of CCMI's Reefs Go Live Series in 2023 (2.1 & 2.2). Additionally, the education team is working to develop a series of education modules that will contribute to a seamount educational package in years 2 and 3 (2.2 & 2.3).

Remaining activities (2.4 – 3.3) are scheduled to be delivered in years 2 and 3.

3.2 Progress towards project Outputs

Output 1: Baseline assessment of benthic and pelagic biodiversity at 12-Mile and Pickle Banks.

We have made significant progress towards achieving this output. Specifically, we have conducted all the necessary logistical and planning aspects to ensure the upcoming expeditions are safe and productive. Although foul weather kept us from surveying 12-Mile Bank in year 1, we were able to pivot and obtain comparable biodiversity data at several nearshore mesophotic sites. These data have already been presented at 2 international scientific symposia. We are scheduled to try again for 12-Mile Bank in May 2023.

We remain on target for completing our surveys of Pickle Bank in year 2, which has required extensive logistical planning and preparation. We have also been able to leverage matching funds for this project to invite additional collaborators to participate in the expedition to Pickle Bank that will increase our understanding of genetic connectivity, as well as microbial diversity. We feel confident, therefore, that we will achieve output 1 within the project timeline.

Output 2: Project specific educational and outreach programmes.

Most activities in this output are expected to occur in project years 2 and 3. Some outreach has been delayed due to the weather impeding our expedition to the seamount and thus we do not yet have imagery or video of the seamounts to incorporate into educational activities. However, the general topic of seamounts has been incorporated into standard educational modules, and the project will be included in an upcoming live broadcast. The project was also presented to the public via a press release in the local paper. Following initial surveys, we intend to create the project specific educational video and webinars.

Output 3: New section for offshore seamounts included in the Cayman Islands Biodiversity Action Plan.

Activities associated with this output are scheduled for year 3.

3.3 Progress towards the project Outcome

Expected Outcome: Detailed baseline data on benthic and pelagic biodiversity at offshore seamounts coupled with targeted education and outreach activities will foster and guide future management strategies.

After completing the first year of the project, we feel confident that we can meet this outcome by project end. Our initial baseline knowledge of these offshore seamounts is completely lacking, and we are now fully poised to conduct the expeditions as described in Q1 and Q2 of year 2. With these data in hand, we will be able to achieve our first indicator of completing data collection

and analysis by project end. In the latter half of project year 2 and in year 3, we will be able to complete the second and third indicators related to incorporation of data into the Cayman Islands Biodiversity Action Plan and increasing public awareness through dissemination of workshops, webinars, and educational modules. We are certain, therefore, that we will achieve the proposed project outcome by the end of the funding period.

3.4 Monitoring of assumptions

Assumption 1: Delays related to recruitment, travel, weather, etc, do not hinder data collection/analysis.

Comments: This assumption still holds true and has caused a delay in data collection in year 1. However, the team was still able to collect useful data and reschedule the field work for Q1 of Year 2.

Assumption 2: Suggested modifications to protection of offshore seamounts are well received; New chapter is approved by CIG

Comments: This assumption remains unchanged.

Assumption 3: Technical difficulties and COVID restrictions to not impact outreach

Comments: As COVID becomes less of a global issue this assumption is much lower risk. Likewise, given our initial expeditions have been conducted without difficulties, the risk of technical difficulties is extremely low.

Assumption 1.1 &1.2:

- Weather is conducive to executing dives
- Liveaboard vessel is available to support technical diving
- Instruments do not flood

Comments: Weather is always an issue; the team has developed alternative strategies to ensure quality data is still obtained even in the event that we cannot access the seamounts. The liveaboard vessel has been sourced and secured for the trip that can support technical diving and is no longer a risk. Instruments have been purchased and tested and thus far we have had no failures, making this risk extremely low.

Assumptions 1.3

- Resulting images are high enough quality to generate photomosaics
- DNA is high enough quality to successfully sequence

Comments: Test mosaics have been generated for nearshore sites and are currently being analysed. Initial results are high quality and thus is now a very low risk. A failure rate of 20% is considered standard for molecular analyses, and thus some failure is always a risk.

Assumptions 1.4

- Publications are completed and accepted by end of project

Comments: although acceptance is never guaranteed, we have already presented initial project results as a poster at scientific symposia, and the first paper is being written with submission for publication expected by end of Q2 in year 2, this is a low-risk assumption.

Assumptions 2.1 – 2.5:

- Technological capabilities enable underwater video + audio recording at offshore sites
- Weather is conducive to completing expeditions
- Ample content is generated to create 2 modules
- Videography is available to join expeditions and film
- Local venue is available for hosting webinar and workshops

Comments: these assumptions remain unchanged

4. Project support to environmental and/or climate outcomes in the UKOTs

The Cayman Islands and UK governments have been engaged in delimiting the Cayman Islands Exclusive Economic Zone and other areas of offshore control (possibly part of the Blue Belt Program), which would include these seamounts. The detailed biodiversity profiling will inform management to preserve the biodiversity, and economic and social utility, of these locally important but vulnerable marine ecosystems. One seamount, '12-Mile Bank', was identified as a key site in the 2009 Cayman Islands National Biodiversity Action Plan (part funded by DEFRA) however Pickle Bank was not included in that project due to practical limitations. These seamounts meet the FAO Vulnerable Marine Ecosystem criteria, with the exception of being in state waters, rather than high seas. This work also supports the Specially Protected Areas and Wildlife (SPAW) Protocol of the Cartagena Convention to protect biodiversity through preservation and sustainable management of areas of particular ecological value. This project has only completed the first year of work and thus has not yet made any direct contributions to these objectives, however this is expected in years 2 and 3.

5. Gender equality and social inclusion

CCMI is a female led organization, with the top two positions in the organization held by females, both of whom are parents. CCMI is highly attuned to the issue of gender inequality, particularly in the sciences. We value gender equality as is evident in our predominately female staff and inclusion of non-binary individuals, with equitable pay scales among genders. We strive to ensure that our primarily female staff are treated fairly and pay particular attention to issues such as mobility of our staff that have children and encourage our staff to work remotely when applicable. This project promotes women's empowerment, as outreach initiatives will showcase a female lead scientist, and gender equality, as key decisions for conservation policies will be led by the female Director of the DOE and outreach activities will be led by the female CEO of the GHOF (Jessica Harvey). Moreover, in recruiting project participants, gender equality will be at the forefront. The health of the coral reef, however, impacts all genders and thus the success of this project has no restrictions or biases in who will ultimately benefit from its success. Prior to project start we had recruited a female postdoctoral researcher to participate with the project, however, she decided to take an alternative position. Following a lengthy recruitment period, we have now hired a male researcher, however, an early career female intern has also been brought onto the project creating a gender balanced team.

Please quantify the proportion of women on the Project Board ¹ .	50% of the project board are women.
Please quantify the proportion of project partners that are led by women, or which have a senior leadership team consisting of at least 50% women ² .	¾ of the project partners (CCMI, GHOF, and DOE) are led by women.

6. Monitoring and evaluation

This project has been managed to CCMI's established monitoring and evaluation (M&E) protocols, in addition to the M&E practice as outlined in the grant application. Internal activities that provide the structure and scope to facilitate the project M&E:

- The project team meet each month to update the outputs and Activities, with increased frequency when preparing for field work or data analysis;

¹ A Project Board has overall authority for the project, is accountable for its success or failure, and supports the senior project manager to successfully deliver the project.

² Partners that have formal governance role in the project, and a formal relationship with the project that may involve staff costs and/or budget management responsibilities.

- Project partners are involved in each stage of the monthly M&E that is relevant to them (and this will increase in frequency in line with year 2 and 3 deliverables).
- Project deliverables and updates are shared monthly with the CCMI Board of Directors, as well as project finances, as part of our overall financial governance protocols.
- CCMI holds a quarterly grants M&E meeting across the company, to discuss, assess and confirm the status of each project.
- A separate financial meeting is also held each quarter following the grants quarterly meeting, with the executive team, to discuss, assess and confirm the status of each project.
- A project summary is provided to our Board of Directors following the quarterly grant and financial meetings.

Both the Outputs and Activities, and the indicators of achievement are being driven by the approved project logframe. As outlined in this report, there have been minor changes to the Outputs and Activities due to weather issues and the delay in personnel recruitment, but the Outcomes remain achievable and on target for the project duration. The logframe identified clear indicators of achievements which have also been outlined in this report and remain on target. The risk assessment and viability of the study is ongoing and is communicated via the M&E protocols outlined above.

There have been no changes to the M&E plan over the reporting period. In addition to the internal project M&E updates, project updates are released via our social media and outreach activities, including a quarterly newsletter and ongoing website updates.

7. Lessons learnt

During Q1 of the project a major unexpected development was that the selected postdoctoral fellow for the project decided to take a different career opportunity. This left us without a project manager. As such, project lead, Goodbody-Gringley, took over the logistical planning of the project and recruited to fill the postdoctoral position. We also enlisted the assistance of a research technician to assist with all aspects of the project. The newly recruited postdoctoral scientist has now joined the team in Q1 of Y2. If we were to do this again, I would have secured an alternate person prior to the start of the project.

Another setback was the weather, however, our team was able to compensate and survey near shore sites, for which data are also lacking. The lesson learned here, is to always have a backup plan in case you are unable achieve what was proposed. For the remaining components of the project, we have developed several “what if” scenarios to ensure that useful data is obtained whenever we have access to a vessel.

8. Actions taken in response to previous reviews (if applicable)

- NA – this is our first annual report for this project.

9. Risk Management

The major risk that occurred in year 1 and continues to be a risk is inclement weather prohibiting field work. Thus far we have mitigated by shifting surveys from offshore to nearshore sites. Given the timeframe for scheduled field work, the risk of inclement weather is low, however, should weather prohibit an expedition to Pickle Bank, an alternative trip will be planned and comparable nearshore data from Little Cayman and or Cayman Brac will be collected while we have access to the vessel.

10. Other comments on progress not covered elsewhere

- NA

11. Sustainability and legacy

This project is still in the early days, with benchmark data being collected but the main field work (with 12 Mile Bank and Pickle Bank) being undertaken in year 2 and 3. There are two key education and outreach deliverables linked to this field activity that underpins the sustainability and legacy of the project overall. The project strategy to ensure the outcomes are sustainable and improve local capacity remain viable and on track for end of project delivery.

However, in addition to the key engagement deliverables outlined above, CCMI continually communicates with (and to) stakeholders in the Cayman Islands (including over 250 local students who visit CCMI for residential courses and 1000 students tuning in to our Reefs Go Live programme from the Cayman Islands) and across the UK Overseas Territories in the Caribbean, via our digital and web-based content. Ongoing social media, newsletter updates and our Reef Lecture Series and Reefs Go Live activity means the project is continually supported throughout the year thus far and will continue to support the sustainability and legacy of the project via a robust, consistent, and well executed communications and outreach strategy at CCMI.

This project has also been presented at the Gordon Research Conference (February 2023), and the Benthic Ecology Meeting (April 2023), reaching over 700 professional stakeholders from across the region, building important knowledge sharing opportunities.

12. Darwin Plus identity

Darwin Plus's identity is supported heavily in the Cayman Islands via CCMI and our project partners, the Cayman Islands Department of Environment. This project is stand alone for CCMI, ensuring that the Darwin Plus logo has clear stand out and links to project success.

The Darwin Plus logo is used in all CCMI collateral. There is a specific webpage, plus 4 newsletters per year that include the logo (reach od 8,000 people per newsletter). The Darwin Plus logo was used on the scientific poster presented at the Gordon Research Conference (February 2023), and the Benthic Ecology Meeting (April 2023), which in addition to reaching 700 attendees, was also shared by CCMI's social media accounts. CCMI will include the logo in the Reefs Go Live broadcast which will reach over 25,000 people.

CCMI also has an active social media programme, that reaches thousands of people per day. In addition to logo usage, CCMI tags both the Darwin Plus programme and DEFRA when project information is shared. CCMI stakeholders are continually briefed on who Darwin Plus is, and the funding support for the project. Therefore, Darwin Plus identity will be positively reinforced via CCMI's outreach and engagement for this project.

13. Safeguarding

Has your Safeguarding Policy been updated in the past 12 months?	No
Have any concerns been investigated in the past 12 months	No
Does your project have a Safeguarding focal point?	Yes – Dr Gretchen Goodbody-Gringely, supported by Rob Hedges
Has the focal point attended any formal training in the last 12 months?	No

What proportion (and number) of project staff have received formal training on Safeguarding?	Past: 35% [5/14] Planned: 70% [10/14]
Has there been any lessons learnt or challenges on Safeguarding in the past 12 months? Please ensure no sensitive data is included within responses. N/A	
Does the project have any developments or activities planned around Safeguarding in the coming 12 months? If so please specify. N/A	

14. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2022 – 31 March 2023)

Project spend (indicative) in this financial year	2022/23 D+ Grant (£)	2022/23 Total actual D+ Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items				
Others (Please specify)				
TOTAL	157,837	121,899		

Table 2: Project mobilising of matched funding during the reporting period (1 April 2022 – 31 March 2023)

	Matched funding secured to date	Total matched funding expected by end of project

Matched funding leveraged by the partners to deliver the project.		
Total additional finance mobilised by new activities building on evidence, best practices and project (£)		

15. OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes

I agree for the Biodiversity Challenge Funds Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here).

Initial surveys were conducted at four sites around Grand Cayman as part of our biodiversity surveys in year 1. Results of the fish community surveys were presented at the Mesophotic Coral Ecosystem Gordon Research Conference in January 2023. The associated title and abstract are below along with a pdf of the poster and imagery collected during the surveys.

Characterizing Fish Community Composition on Mesophotic Reefs in the Cayman Islands

Alex Chequer, Leeav Cohen, Matt Doherty, and Gretchen Goodbody-Gringley

Mesophotic Coral Ecosystems (MCEs) have gained attention for potential as areas of refuge for species survival under increasing natural and anthropogenic disturbance, however, others have proposed that MCEs represent ecologically distinct communities. Yet, census data of MCE fish communities remains minimal with only a handful of studies evaluating community composition using *in situ* visual surveys. Here we aimed to characterize the biodiversity of MCE communities through a series of *in situ* visual surveys at several locations in Grand Cayman. We documented a total of 48 species, with the families *Grammatidae*, *Pomacentridae* and *Labridae* being the most common by relative frequency and *Lutjanidae*, *Scaridae*, *Haemulidae*, and *Pomacanthidae* contributing the most to relative biomass. Density and diversity were similar to other Caribbean locations; however, the species accumulation curve suggests that while observed richness is approaching saturation, more surveys are still required to accurately characterize the community.

File Type (Image / Video / Graphic)	File Name or File Location	Caption, country and credit	Online accounts to be tagged (leave blank if none)	Consent of subjects received (delete as necessary)
Graphic	Gordon_Conference_Poster_Chequer_42x42.pdf Attached with report	Scientific poster presentation for the Mesophotic Coral Reef Gordon Research Conference, Cayman Islands, Alex Chequer	@reefresearch @pinkfindiver	Yes
Image	CCMI_divers_on_the_wall_2022.jpeg Attached with report	CCMI divers conducting surveys on mesophotic reef sites in Grand Cayman	@reefresearch @pinkfindiver	Yes
Image	GGG_surveying_MCE_fish_2022.jpeg Attached with report	Dr. Gretchen Goodbody-Gringley conducting fish surveys of mesophotic	@reefresearch @pinkfindiver	Yes

		fish communities at 45m depth in Grand Cayman		
				Yes / No
				Yes / No

Annex 1: Report of progress and achievements against logframe for Financial Year 2022-2023 – if applicable

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
<p>Impact</p> <p>Increase protection and public awareness of unique offshore seamount ecosystems in the Cayman Islands.</p>		<p>All logistical preparations have been made and nearshore comparable data has been obtained to ensure this impact is achieved by project end.</p>	
<p>Outcome Detailed baseline data on benthic and pelagic biodiversity at offshore seamounts coupled with targeted educational and outreach activities will foster and guide future management strategies.</p>	<p>0.1 Increased understanding of seamount biodiversity via data collection and analysis</p> <p>0.2 Improved management of biodiversity via incorporation of data into the Cayman Islands Biodiversity Action Plan</p> <p>0.3 Heightened public awareness and local knowledge via dissemination of workshops, webinars, multi-media products and education modules</p>	<p>0.1 Data has been collected on comparable nearshore MCE sites; expeditions are planned for Q1 and Q2 of year 2.</p> <p>0.2 NA – planned for Year 3</p> <p>0.3 Initial dissemination occurred via press release, social media posts, and presentation at scientific conferences</p>	<p>0.1 All logistical aspects of expeditions are planned for year 2.</p> <p>0.3 Additional dissemination and workshops will occur in years 2</p>
<p>Output 1. Baseline assessment of benthic and pelagic biodiversity at 12-Mile and Pickle Banks</p>	<p>1.1 Knowledge gained on 12-Mile bank seamount biodiversity via data collection by end of Year 1</p> <p>1.2 Knowledge gained on Pickle Bank seamount biodiversity via data collection by end of Year 2</p> <p>1.3 Improved understanding of seamount ecosystem function via data consolidation and analysis completed by Jan. 2025</p> <p>1.4 Increased stakeholder knowledge via publication of results by end of project</p>	<p>We have made significant progress towards achieving this output. Specifically, we have conducted all the necessary logistical and planning aspects to ensure the upcoming expeditions are safe and productive. Although foul weather kept us from surveying 12-Mile Bank in year 1, we were able to pivot and obtain comparable biodiversity data at several nearshore mesophotic sites. These data have already been presented at 2 international scientific symposia (see attached poster in section 15). We are scheduled to try again for 12-Mile Bank in May 2023.</p> <p>We remain on target for completing our surveys of Pickle Bank in year 2, which has required extensive logistical planning and preparation. We have also been able to leverage matching funds for this project to invite additional collaborators to participate in the expedition to Pickle Bank that will increase our understanding of genetic connectivity, as well as microbial diversity. We</p>	

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
		feel confident, therefore, that we will achieve output 1 within the project timeline.	
Activity 1.1 12 in-situ fish surveys completed at each seamount (July – December 2022 & 2023)		17 fish surveys were conducted at nearshore mesophotic reefs in Grand Cayman.	In situ fish surveys are scheduled to be conducted in Q1 and Q2 of year 2 at each seamount.
Activity 1.2 5 benthic photomosaics generated from each seamount (July – December 2022 & 2023)		4 benthic mosaics were generated at nearshore mesophotic reefs in Grand Cayman	Photomosaics are scheduled to be conducted in Q1 and Q2 of year 2 at each seamount.
Activity 1.3 Fish and benthic data analyzed (January – July 2023 & 2024)		Fish data from nearshore mesophotic reefs in Grand Cayman were analysed and presented at 2 scientific conferences; benthic data is currently being analysed.	Expeditions to the seamounts are scheduled for Year 2 to collect fish and benthic data.
Activity 1.4 Water and sediment samples collected from each seamount (July – December 2022 & 2023)		Water and sediment samples were taken from nearshore mesophotic reefs in Grand Cayman	Expeditions to the seamounts are scheduled for Year 2 to collect samples.
Activity 1.5 Water samples analyzed for eDNA (January – July 2023-2024)		Samples collected from Grand Cayman are currently being analysed by partner M. Leray.	Expeditions to the seamounts are scheduled for Year 2 to collect samples.
Activity 1.6 3 replicate light and temperature loggers deployed at each seamount for 1 month (July – December 2022 & 2023)		Loggers were purchased and shipped to Cayman.	Expeditions to the seamounts are scheduled for Year 2 to collect samples.
Activity 1.7 Data consolidated and results published (June 2024 – March 2025)		NA	Activities planned for year 3

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
<p>Output 2. Project specific educational and outreach programmes</p>	<p>2.1 Increased global stakeholder engagement via 1 interactive educational broadcast delivered each project year, each reaching 250-450 via direct views with up to 10,000 recording views from 28 countries.</p> <p>2.2 Increased local education via 1 education module related to the project delivered each project year reaching roughly 100 local primary students each year</p> <p>2.3 Broaden educational reach via 1 short educational video available online by end of Year 2 provided to local schools and available online reaching upwards of 1,000 students</p> <p>2.4 Increased stakeholder knowledge via one webinar delivered locally each project year reaching roughly 50 people via in person attendance and 100 via online stream.</p> <p>2.5 Improved fisherman understanding of seamount biodiversity and importance via consultation through 1 in-person workshop given at each of the 3 Cayman Islands by the end of Year 3, reaching approximately 50-200 local fisherman and anglers.</p>	<p>Most activities in this output are expected to occur in project years 2 and 3. Some outreach has been delayed due to the weather impeding our expedition to the seamount and thus we do not yet have imagery or video of the seamounts to incorporate into educational activities. However, the general topic of seamounts has been incorporated into standard educational modules, and the project will be included in an upcoming live broadcast. The project was also presented to the public via a press release in the local paper. Following initial surveys, we intend to create the project specific educational video and webinars.</p> <p>Still imagery was captured during the nearshore surveys (see attached images in section 15) and the project is contributing to an episode of CCMIs Reefs Go Live Series in 2023 (2.1 & 2.2). Additionally, the education team is working to develop a series of education modules that will contribute to a seamount educational package in years 2 and 3 (2.2 & 2.3).</p> <p>Remaining activities (2.4 – 3.3) are scheduled to be delivered in years 2 and 3.</p>	
<p>Activity 2.1. Interactive video with scientist filmed while diving on each seamount (July – December 2022 & 2023)</p>		<p>NA</p>	<p>Activities planned for Year 2</p>

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Activity 2.2. Video incorporated into a live broadcasted Q&A session with scientists (June each year)		NA	Activities planned for Year 2
Activity 2.3. Education modules created related to the project and delivered locally and regionally (1 per year)		Project presented verbally to all incoming visitors and education groups at CCMI	Additional activities planned for Year 2
Activity 2.4. Short educational video developed and broadcast only by December 2024		NA	Activities planned for Year 2
Activity 2.5. One webinar delivered locally each project year		NA	Activities planned for Year 2
Activity 2.6. One workshop delivered on each island (Grand, Little, Brac) (Year 3)		NA	Activities planned for Year 3
Output 3. New section for offshore seamounts included in the Cayman Islands Biodiversity Action Plan	3.1 Improved documentation of seamount biodiversity and sustainability via new seamount chapter written by Jan 2025 3.2. Better management of seamounts via chapter approval by DOE and incorporation in CI BAP by end of project.	These activities are planned for project year 3.	
Activity 3.1. Consultations with DOE regarding interpretation of results and development of CIBAP chapter (Year 3)		NA	Activities planned for Year 3
Activity 3.2. Recommendations and data consolidated into new CIBAP chapter on seamounts (Year 3)		NA	Activities planned for Year 3

Project summary	SMART Indicators	Progress and Achievements April 2022 - March 2023	Actions required/planned for next period
Activity 3.2. Chapter approved and consultations held with relevant government agencies to discuss implications and potential changes to legislation (Year 3).		NA	Activities planned for Year 3

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project Summary	SMART Indicators	Means of Verification	Important Assumptions
Impact: Increase protection and public awareness of unique offshore seamount ecosystems in the Cayman Islands.			
Outcome: Detailed baseline data on benthic and pelagic biodiversity at offshore seamounts coupled with targeted educational and outreach activities will foster and guide future management strategies.	0.1 Increased understanding of seamount biodiversity via data collection and analysis 0.2 Improved management of biodiversity via incorporation of data into the Cayman Islands Biodiversity Action Plan 0.3 Heightened public awareness and local knowledge via dissemination of workshops, webinars, multi-media products and education modules	0.1 Biodiversity data available on public repositories 0.2 Updated Cayman Islands Biodiversity Action Plan; Final project report. 0.3 Documentation of outreach events; media files available online; education modules published online	1. Delays related to recruitment, travel, weather, etc, do not hinder data collection/analysis 2. Suggested modifications to protection of offshore seamounts are well received; New chapter is approved by CIG 3. Technical difficulties and COVID restrictions to not impact outreach
Outputs: 1. Baseline assessment of benthic and pelagic biodiversity at 12-Mile and Pickle Banks	1.1 Knowledge gained on 12-Mile bank seamount biodiversity via data collection by end of Year 1 1.2 Knowledge gained on Pickle Bank seamount biodiversity via data collection by end of Year 2 1.3 Improved understanding of seamount ecosystem function via data consolidation and analysis completed by Jan. 2025 1.4 Increased stakeholder knowledge via publication of results by end of project	1.1 Project notebooks; internal online database; interim project report 1.2 Project notebooks; internal online database; interim project report 1.3 Documented presentations of results with interpretation; interim project report 1.4 Documented presentations of results with interpretation; final project report; publications	1.1 & 1.2 Weather is conducive to executing dives 1.1 & 1.2 Liveaboard vessel is available to support technical diving 1.1 & 1.2 Instruments do not flood 1.3 Resulting images are high enough quality to generate photomosaics 1.3 DNA is high enough quality to successful sequence 1.4 Publications are completed and accepted by end of project
2. Project specific educational and outreach programmes	2.1 Increased global stakeholder engagement via 1 interactive educational broadcast delivered each project year, each reaching 250-450 via direct views with up to 10,000 recording views from 28 countries.	2.1 Recorded broadcast online via CCMI and GHOF 2.2 Education modules available on CCMI and GHOF websites 2.3 Video available online via CCMI and GHOF	2.1 Technological capabilities enable underwater video + audio recording at offshore sites 2.1 Weather is conducive to completing expeditions 2.2 Ample content is generated to create 2 modules

	<p>2.2 Increased local education via 1 education module related to the project delivered each project year reaching roughly 100 local primary students each year</p> <p>2.3 Broaden educational reach via 1 short educational video available online by end of Year 2 provided to local schools and available online reaching upwards of 1,000 students</p> <p>2.4 Increased stakeholder knowledge via one webinar delivered locally each project year reaching roughly 50 people via in person attendance and 100 via online stream.</p> <p>2.5 Improved fisherman understanding of seamount biodiversity and importance via consultation through 1 in-person workshop given at each of the 3 Cayman Islands by the end of Year 3, reaching approximately 50-200 local fisherman and anglers.</p>	<p>2.4 Recorded webinar available on CCMI youtube page</p> <p>2.5 Recorded workshop available online via CCMI and GHOF</p> <p>2.1 – 2.4 Final project report</p>	<p>2.3 Videographer is available to join expeditions to film</p> <p>2.4 local venue is available for hosting webinar</p>
<p>3. New section for offshore seamounts included in the Cayman Islands Biodiversity Action Plan</p>	<p>3.1 Improved documentation of seamount biodiversity and sustainability via new seamount chapter written by Jan 2025</p> <p>3.2. Better management of seamounts via chapter approval by DOE and incorporation in CI BAP by end of project.</p>	<p>3.1 Digital copy archived and publicly available on CCMI website</p> <p>3.2 Updated version of the Biodiversity Action Plan publicly available.</p>	<p>3.1 Data collection and analysis is complete in time to develop chapter by end of project</p> <p>3.2 DOE approve the chapter</p>

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

- 1.1 12 in-situ fish surveys completed at each seamount (July – December 2022 & 2023)
- 1.2 5 benthic photomosaics generated from each seamount (July – December 2022 & 2023)
- 1.3 Fish and benthic data analyzed (January – July 2023 & 2024)
- 1.4 Water and sediment samples collected from each seamount (July – December 2022 & 2023)
- 1.5 Water samples analyzed for eDNA (January – July 2023-2024)
- 1.6 3 replicate light and temperature loggers deployed at each seamount for 1 month (July – December 2022 & 2023)
- 1.7 Data consolidated and results published (June 2024 – March 2025)
- 2.1 Interactive video with scientist filmed while diving on each seamount (July – December 2022 & 2023)
- 2.1 Video incorporated into a live broadcasted Q&A session with scientists (June each year)
- 2.2 Education modules created related to the project and delivered locally and regionally (1 per year)
- 2.3 Short educational video developed and broadcast only by December 2024
- 2.4 One webinar delivered locally each project year
- 2.5 One workshop delivered on each island (Grand, Little, Brac) (Year 3)
- 3.1 Consultations with DOE regarding interpretation of results and development of CIBAP chapter (Year 3)
- 3.2. Recommendations and data consolidated into new CIBAP chapter on seamounts (Year 3)
- 3.3. Chapter approved and consultations held with relevant government agencies to discuss implications and potential changes to legislation (Year 3).

Annex 3: Standard Indicators

Table 1 Project Standard Indicators

DPLUS Indicator number	Name of indicator using original wording	Name of Indicator after adjusting wording to align with DPLUS Standard Indicators	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
DPLUS-A01	Number of people from key national and local stakeholders completing structured and relevant training	Number of researchers trained as scientific divers, trained to conduct standard fish identification surveys, and trained to process eDNA. Total time 90 hours per person.	People	None	5			5	6
DPLUS-A03	Number of local/national organization with improved capacity as a result of the project	Number of organizations with trained researchers	Number of Organizations	None	1			1	2
DPLUS-A04	Number of people reporting that they are applying new capabilities	Number of active scientific divers and researchers using learned skills	People	None	5			5	6
DPLUS-C04	Number of new conservation or species stock assessments published	Number of stock assessments for fish and benthic organisms published	Number	Taxa (fish, corals, algae, sponges, etc); regional; visual and photographic surveys	1			1	4
DPLUS-C15	Number of Media related activities	Number of popular press articles	Number	Print; national	1			1	3
DPLUS-C12	Social Media Presence	Number of unique hits	Number	By year; Instagram and Facebook; reach	12,000; 180,000				250,000
DPLUS-A07	Number of government institutions/departments with enhanced awareness and understanding of biodiversity and associated local community issues	Government Institutions	Number	Planning; environmental; tourism	0			0	3
DPLUS-B01	Number of new/improved habitat management plans available and endorsed	Number of sections added to the Biodiversity Management Plan	Number	Local; habitat; Chapter	0			0	1

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Characterizing Fish Community Composition on Mesophotic Reefs in the Cayman Islands	Scientific Poster	Alex Chequer, Leeav Cohen, Matt Doherty, and Gretchen Goodbody- Gringley	Male	UK	CCMI, Little Cayman, Cayman Islands	Attached document
CCMI to lead study of 12-Mile Bank and Pickle Bank	Newspaper Article	Norma Connolly	Female	Caymanian	Cayman Compass, George Town, Cayman Islands	https://www.caymancompass.com/2022/07/29/ccmi-to-lead-study-of-12-mile-bank-and-pickle-bank/

Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the correct template (checking fund, type of report (i.e. Annual or Final), and year) and deleted the blue guidance text before submission?	x
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Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	x
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 15)?	x
Have you involved your partners in preparation of the report and named the main contributors	x
Have you completed the Project Expenditure table fully?	x
Do not include claim forms or other communications with this report.	